



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,394	10/16/2001	Tetsunori Otaguro		3038

30132 7590 01/20/2004
GEORGE A. LOUD
3137 MOUNT VERNON AVENUE
ALEXANDRIA, VA 22305

EXAMINER

FOX, CHARLES A

ART UNIT PAPER NUMBER

3652

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/977,394

Applicant(s)

OTAGURO, TETSUNORI

Examiner

Charles A. Fox

Art Unit

3652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bacchi et al. in view of Tateyama et al. In regards to claims 1,8 and 9 Bacchi et al. US 6,281,516 teach a FOUP opening apparatus comprising:

- a dock plate (24) for carrying and positioning a FOUP (18);
- a dock moving mechanism (88) for moving said dock plate to a position for attachment and detachment of a FOUP door;
- a port door (76) including a detachment/attachment mechanism for attaching and detaching said FOUP door to said port door;
- a port plate (14) including an opening portion being closed by said port door;
- a port door horizontal movement mechanism (252) for moving port door in a linear horizontal direction;
- an optical scanning assembly (290);
- a sensor horizontal movement mechanism (320) for horizontally moving a sensor bracket (292l,292r), said sensing bracket having a sensor(306a,308a) mounted

to said bracket and adapted to detect the presence/absence, storage condition and position of wafers in said FOUP;

wherein said horizontal movement mechanism is independently operated from the vertical movement mechanism (28);

a port-door -and -sensor vertical movement mechanism (28) for moving said sensor bracket and FOUP door attached to said port door, so as to house said FOUP door;

a drive section for said vertical movement mechanism, where said drive sections are disposed in opposition to a clean room with respect to said port plate (14), said clean room housing said port door/sensor bracket. Bacchi et al. do not teach the sensing bracket as moving independently of the port door.

Tateyama et al. US 5,239,182 teaches a wafer handling device comprising:

a plate (5) for holding a cassette (40) containing a plurality of wafers (60);

a gripper (14) for handling the wafers in said cassette;

a wafer detection mechanism (22) for scanning the cassette for the presence of wafers;

wherein said wafer detection system is capable of independent movement in a linear horizontal direction. It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the device taught by Bacchi et al. with an independently movable wafer detection device as taught by Tateyama et al. in order to allow the device to determine the position of the wafers within the cassette as well as determining

if any of the wafers are misaligned, thereby keeping the handler from damaging any misaligned wafers.

In regards to claim 2 Bacchi et al. also teach at least one guide slit (not numbered) in said port plate (14), where said drive mechanisms move port door horizontally and vertically via said guide slit. See figures 6 and 9.

In regards to claim 3 Bacchi et al. further teach that said guide slit is used in common to move said port door/sensor bracket.

In regards to claims 7 and 10 Bacchi et al. further teach the port door movement mechanism moves the port door from a closed position to an open position within the clean room via a horizontal and linear path.

In regards to claims 11 and 12 Tateyama teaches a wafer detection mechanism (22) that move independently of any cassette handling equipment as outlined above. It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the device taught by Bacchi et al. with an independently movable wafer detection device as taught by Tateyama et al. in order to allow the device to determine the position of the wafers within the cassette as well as determining if any of the wafers are misaligned, thereby keeping the handler from damaging any misaligned wafers.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bacchi et al. and Tateyama et al. as applied to claims 1-3 above, and further in view of Lane et al. Bacchi et al. and Tateyama et al. teach the limitations of claims 1-3 as above, they do not teach exhausting the driving sections of the device to minimize particles from entering the clean room. Lane et al. US 5,905,302 teach a loadlock

system where an exhaust port (280) takes gasses out of a transfer chamber in order to keep gas-bound particles from entering a clean area. See column 6 lines 18-53. It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the driving section taught by Bacchi et al. with an exhaust system as taught by Lane et al. in order to keep particles generated by the driving mechanisms from entering the clean room.

Response to Amendment

The amendments to the claims, filed on October 31, 2003 have been entered into the record.

Response to Arguments

Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

The prior art made of record and not relied upon, but considered pertinent to applicant's disclosure is: Holmon et al. 1994, Meyhofer et al. 2002 and Nakashima et al. 2003.

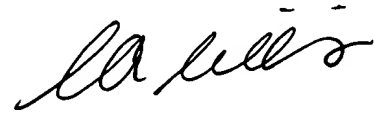
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles A. Fox whose telephone number is 703-605-4294. The examiner can normally be reached between 7:00-5:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen D. Lillis can be reached at 703-308-3248. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Application/Control Number: 09/977,394
Art Unit: 3652

Page 6

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.



EILEEN D. LILLIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

CAF

CAF
12-30-03